

LI's



Backyard



Research



Project

In this case, the story of a reserve and its research that nearly wasn't illustrates the scarcity of ecological research in a time of growing reliance on science-based management decisions, and the precarious position of some government-sponsored ecological programs in a time of shifting priorities and budget constraints.

But even more, it's a story about how so much came to be attached to so little.

The Upton Ecological and Research Reserve comprises little more than one-half of 1 percent of Long Island's central pine barrens, a 102,500-acre patchwork of wetlands, pitch pines and oak forests designated for protection by the state 10 years ago. The modest Upton reserve nonetheless boasts more than 220 species of plants and 162 species of mammals, birds, reptiles and amphibians, including more than two dozen species considered endangered, threatened or of special concern by the state. The endangered Eastern tiger salamander lives here. So do the threatened banded sunfish, swamp darter and stiff goldenrod.

Almost three years ago, with the pine barrens as a backdrop and Sen. Chuck Schumer (D-N.Y.) at his side, then-Secretary of Energy Bill Richardson announced the creation of the reserve on Nov. 9, 2000, along with a funding commitment of \$1 million for five years of research in ecology.

"This was the first time I'd seen a federal agency dedicate a portion of that land for research," said Ray Corwin, executive director of the Pine Barrens Commission. "What's special about that is that it acknowledged that stewardship — that is the future of the pine barrens — has got to be based on knowledge. And research is sort of the nucleus of stewardship."

Although tens of thousands of acres have been set aside for wildlife conservation on Long Island, Corwin said, "we don't have a lot of living laboratories."

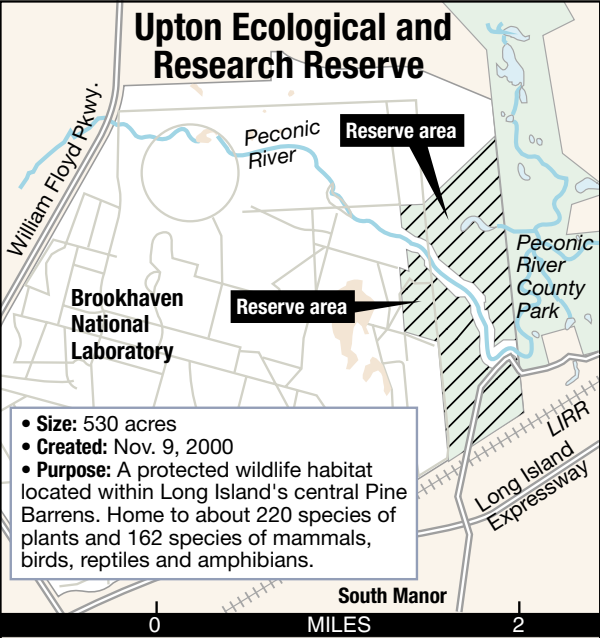
The "living laboratory" at Brookhaven nearly became a casualty of budget cuts when it lost its discretionary funding from the Department of Energy's Office of Environmental Restoration earlier this year. The end of the fiscal year, one week from today, would have marked its passing.

Two jobs would have been lost as \$400,000 over two years would have been saved. But several ecologists say the loss of knowledge, momentum and goodwill would have been much harder to regain — especially the latter, as the lab today is on generally good terms with its neighbors after enduring stormy relations in the past.

But an ending was averted when Frank Crescenzo, the Department of Energy's deputy area manager for Brookhaven, managed to secure a one-year commitment for \$200,000 from another source within the department. The reprieve was enthusiastically welcomed by an array of Long Island officials and ecologists stunned by the earlier loss of funding.

On Oct. 3, during the annual Pine Barrens Research Forum at Brookhaven National Laboratory, organizers are expected to take the next step and formally announce that the reserve has a successor for the day the government funding ends: an ambitious nonprofit research organization known by the acronym FERN, or Foundation for Ecological Research in the Northeast.

"The vision of this new foundation is to expand the ecological and environmental research far beyond the central pine barrens of New York," said Tim Green, the natural resources manager for Brookhaven and a main force behind the new foundation's formation. The barrens will be an initial focus, he said, but sup-



porters hope to eventually include other Northeast ecosystems, such as marine and estuary habitats.

Green, DOE officials and other supporters already had begun talking about how to transform the government-sponsored reserve into a more permanent and independent entity after the 2005 expiration of government funding. But the growing threat of early termination sent them scrambling to set up a nonprofit foundation before even limited start-up funds promised by the DOE as a consolation package might dry up.

Extension of funding for a year, according to Green and Corwin, has allowed organizers to relax their pace while laying the groundwork for a smooth transition next fall. "That gives us plenty of time to put a permanent foundation in place," said Corwin, who added that he was "thrilled" and "grateful" to hear of the reprieve.

The trick now, he said, is to harness the enthusiasm and momentum into sustaining the nonprofit entity as it broadens its geographical and educational focus.

"It's actually very exciting, if it does even a percentage of what we'd like it to do," he said.

Even so, Corwin said ecologists must work to educate the public about the research that already exists.

"I would suggest that the situation today with respect to ecological research on the Island is probably very analogous to the situation going back into the '60s and '70s, when the Long Island Regional Planning Board was thinking of looking in-depth at groundwater research," he said.

That effort, Corwin said, effected a "sea change in public perception in my lifetime about the very invisible entity known as an aquifer."

The challenge is to effect a similar change with ecological research, but Corwin is optimistic, especially when more people "are literally venturing into the woods" and experiencing nature firsthand.

Pat Martinkovic, refuge manager for the Long Island National Wildlife Refuge Complex in Shirley, said the research accomplished at the Upton reserve has already proven its worth, an assessment shared by other researchers, officials and environmentalists interviewed.

Researchers working at the reserve have examined the role of fire in controlling populations of

orange-striped oakworm, a major defoliator of oak trees. Other efforts have assessed the damage to the reserve's plants and animals by deer overpopulation, a problem shared by many East End communities. Scientists have recorded the mating habits of Eastern spadefoot toads, surveyed populations of Eastern tiger salamanders, tracked the movements of Eastern hognose snakes and charted the spread of invasive plants such as Japanese barberry, multiflora rose and Asiatic bittersweet.

"There's a great need for that data in order for us to effectively and efficiently manage the phenomenal natural resources that we have on Long Island, especially focusing in on the pine barrens in this case," Martinkovic said. "It's not enough just to protect a site and be putting up signs and saying, 'No development.' That's a superb start. And I really commend Long Island in what they've done. But designating an area is just the first step. Research is that very critical phase to ensure that protection." A major obstacle, she said, is convincing people of the necessity for research at all.

"People regard research as, oh, nice to have but not essential, or it's the icing on the cake. In reality, it's the real meat," she said. "It's not a luxury. It's a bare basic."

The reserve, she said, proves that such basic work can be accomplished on a tight budget. "So I think what it illustrates is that research is a very viable, doable, realistic activity for us that isn't all that expensive," she said. "When you look at the cost-benefit ratio, it's

A \$200,000, one-year grant from the Department of Energy, environmentalists hope, will be a bridge to FERN, a nonprofit research organization whose formation is expected to be announced on Oct. 3; it will help fund studies of pine barrens non-native plants such as the multiflora rose, top left, and Japanese barberry, bottom, and the hognosed snake, center.



Newsday Photos / Bill Davis
Jeremy Feinberg, a U.S. Fish and Wildlife Service employee at the Upton Ecological and Research Reserve, prepares to release an Eastern hognose snake into the pine barrens for a tracking experiment; below, the endangered Eastern tiger salamander.



amazing what you're getting as a result."

Jessica Gurevitch, an ecologist at Stony Brook University, became one of the first recipients of the reserve's limited wealth when she received a grant to study the spread of non-native plant species such as Japanese barberry and multiflora rose in the pine barrens.

When she was interviewed in July about the loss of the reserve's funding, she expressed disappointment that other researchers would be denied the opportunities given to her.

"Funding for ecological research for the region has been really miniscule," she said. "And for all the years of problems that BNL has had with dealing with the community, [the reserve] is so positive."

More than just affirming the lab's commitment to the environment, she said, research at the site had focused on concerns of importance to the local community, such as species conservation, fire management, preservation of groundwater and maintenance of the last remaining open spaces.

"So the money you put into understanding this ecosystem just pays off in spades," she said. And unlike biomedical research, she said, ecological research is less likely to attract corporate funding in the absence of government support.

"This may not be part of their major focus, but it's not a \$10 billion investment either," she said of the Department of Energy. "This is small potatoes, but it's paying off very richly."

In the end, disappointment turned to elation when Gurevitch learned of the reserve's new life.

"That's terrific!" she said when notified. "That's fabulous. That's wonderful."

The reversal of fortune made a similar impression on two Long Island officials. News of the impending cut had reached Crescenzo's office early this year after a re-evaluation of the reserve's funding from the Department of Energy's Office of Environmental Restoration. A policy paper, issued July 15, formalized the shift in focus by directing management officials in that office to re-emphasize risk-based environmental cleanup.

"They're very focused on maximizing the money spent in their program on top-priority cleanup," Crescenzo said in an interview in July. "So funding this ecological reserve, while they would certainly agree that it is a good thing — they would certainly agree that it is positive — it is not really aligned with their priorities." Within the department, he said at the time, "it's hard to find someone else who will stand up and say, 'I've got \$200,000.'"

Crescenzo stressed that the loss of funding would not change the official status of the Upton reserve as a protected wilderness area. The funding loss, however, would have dealt a blow to the U.S. Fish and Wildlife Service's Long Island National Wildlife Refuge Complex, with which the DOE had contracted to manage the reserve. The \$200,000 annual budget paid for two on-site Fish and Wildlife employees, overhead costs, supplies and between \$50,000 and \$75,000 in annual grants provided to other researchers, such as Gurevitch.

"I have to tell you that the DOE does not do a lot of research that I'm aware of in this particular area, pine barrens research," Crescenzo said. "When we started this, it was really sort of a good neighbor gesture, but it's not really a mission policy of the DOE."

Nevertheless, he said, "the notion that there is literally billions of dollars spent buying up pine barrens property but there is very, very little research that's been done on the terrestrial level is kind of shocking to me."

Less than a week later, Crescenzo said he was happy to report that the Chicago office overseeing Brookhaven's annual budget had found funds for another year. Despite his relief, Crescenzo repeated his amazement at the disparity between the large sums spent to buy land and the "little pittance" spent on its research.

Similarly, Rep. Tim Bishop (D-Southampton) characterized the reserve's annual budget as "almost nickel and dime material," especially in proportion to the much larger price tag attached to DOE clean-up efforts.

"The cleanup, unequivocally, is the most important priority," he said, "but this ought not to be an either-or situation."

After reinstatement of next year's funds, Bishop said in a statement that he was "very glad to learn that the Department of Energy has found a way to keep its promise to Long Island," but he, too, sought to repeat his earlier distinction.

"I am glad the Department of Energy realizes that environmental cleanup and research are not an either-or to be played off one another," he said. "They are both priorities that matter to our community."

Apparently, \$200,000 still goes a long way.



For more about the Upton Reserve and Long Island's Natural World, go to www.newsday.com/science.